

- 5                   (a) incubating said sample with a mixture of particles in a first suspension,  
6                   said mixture of particles comprised of groups (i) through (iv):  
7                   (i) particles coated with anti-thyroid stimulating hormone,  
8                   (ii) particles coated with anti-triiodothyronine,  
9                   (iii) particles coated with anti-thyroxine, and  
10                  (iv) particles coated with a mixture of a diluting agent and a member  
11                  selected from the group consisting of thyroid peroxidase and  
12                  anti-human IgG,  
13                  the particles of each group distinguishable from the particles of each  
14                  other group by a flow cytometry distinguishable characteristic that is /  
15                  independent of the coatings of subparagraphs (i), (ii), (iii), and (iv);  
16                  (b) recovering said particles from said first suspension, and incubating  
17                  said recovered particles with a mixture of labeled binding members in  
18                  a second suspension, said mixture of labeled binding members  
19                  comprising:  
20                  (1) labeled anti-thyroid stimulating hormone,  
21                  (2) a labeled analog composition toward which anti-triiodothyronine  
22                  and anti-thyroxine have immunological binding affinity, but in  
23                  which said immunological binding affinity is less than that of  
24                  anti-triiodothyronine toward triiodothyronine and of anti-  
25                  thyroxine toward thyroxine, and  
26                  (3) either labeled anti-human IgG when particles of group (iv) are  
27                  coated with thyroid peroxidase, or labeled thyroid peroxidase  
28                  when particles of group (iv) are coated with anti-human IgG;  
29                  said diluting agent being inert toward said biological markers and said labeled  
30                  binding members; and  
31                  (c) recovering said particles from said second suspension and detecting  
32                  the amount of label bound to said particles thus recovered from said  
33                  second suspension while correlating by flow cytometry the amount of